



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/607,276

06/27/2003

Seokhyun Lim

1751-340

4717

6449

7590

04/19/2004

ROTHWELL, FIGG, ERNST & MANBECK, P.C.
1425 K STREET, N.W.
SUITE 800
WASHINGTON, DC 20005

EXAMINER

BRINSON, PATRICK F

ART UNIT

PAPER NUMBER

3752

DATE MAILED: 04/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/607,276

Applicant(s)

LIM ET AL.

Examiner

Patrick F. Brinson

Art Unit

3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by **Whitsitt et al.**

The patent to **Whitsitt et al.** discloses a device, fig. 3, including a plurality of straight channel portions (2) extending in a straight-line pattern and connecting portions (1). The connecting portions connect each pair of adjacent straight channel portions with the connecting portions being wider than the straight channel portions, as recited in claim 1. Each connecting channel portion becomes progressively wider from one of the two adjacent straight channel portions toward the other straight channel portion and is widest in a middle portion, as recited in claim 2. The shape of the connecting portion is curved, as recited in claim 3. The channels are not utilized in a micro channel unit, however, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not

Art Unit: 3752

differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

3. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by

Kunstorff.

The patent to **Kunstorff** discloses a device including a plurality of straight channel portions, fig. 4, (18) extending in a straight-line pattern and connecting portions (30). The connecting portions connect each pair of adjacent straight channel portions with the connecting portions being wider than the straight channel portions, as recited in claim 1. Each connecting channel portion becomes progressively wider from one of the two adjacent straight channel portions toward the other straight channel portion and is widest in a middle portion, as recited in claim 2. The shape of the connecting portion is curved, as recited in claim 3. The channels are not utilized in a micro channel unit, however, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

4. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by **Brooks**.

The patent to **Brooks** discloses a device including a plurality of straight channel portion fig. 1, (16, 17, 19, 22, 24) extending in a straight-line pattern and connecting

Art Unit: 3752

portions (28, 27, 26 and 25). The connecting portions connect each pair of adjacent straight channel portions with the connecting portions being wider than the straight channel portions, as recited in claim 1. Each connecting channel portion becomes progressively wider from one of the two adjacent straight channel portions toward the other straight channel portion and is widest in a middle portion, as recited in claim 2. The shape of the connecting portion is curved, as recited in claim 3. The channels are not utilized in a micro channel unit, however, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents to Bennett, Boskovic, Girtanner, Carter, Parker, Abels, Straitz, III, Phillips, Veldhoff, and Laeycraft are all pertinent to Applicant's invention in disclosing straight line channels through which fluid flows and connecting channels that connect the straight line channels.³

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Patrick F. Brinson** whose telephone number is (703) 308-0111. The examiner can normally be reached on M-F 7:30-3:00.

Art Unit: 3752

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Michael Y. Mar** can be reached on (703) 308-2087. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Patrick F. Brinson
Primary Examiner
Art Unit 3752

P. F. Brinson
April 15, 2004